UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,248	06/29/2001	Carl A. Caroli	2-54-9	9196

30594 7590 03/20/2006

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 8910
RESTON, VA 20195

EXAMINER	
LI, SHI K	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/896,248	CAROLI ET AL.	
	Examiner	Art Unit	
	Shi K. Li	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-3, 9, 12-15 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sridhar (U.S. Patent 5,778,118) in view of Park et al. (U.S. Patent Application Pub. 2002/0067526 A1).

Regarding claims 1, 13, 19 and 21, Sridhar discloses in FIG. 1 an add/drop node and method capable of adding or dropping at least one optical channel of a WDM signal. The add/drop node (FIG. 1) comprises an optical coupler 20 for receiving and coupling a WDM input signal to both a drop transmission path (first path) and a through transmission path (second path) within the add/drop node (col. 4, lines 10-21), an optical splitter 62 coupled to the drop transmission path 60 for optically separating the WDM signal into a plurality of optical channels wherein one or more of the plurality of optical channels are selectively dropped from the WDM input signal (col. 5, line 64-col. 6, line 2), a first wavelength blocking element 40 coupled to the through transmission path 50 for selectively blocking the one or more optical channels being selectively dropped so that only optical channels not being dropped at the add/drop node are passed on the through transmission path (col. 5, lines 2-5), an add transmission path (third path) 83, an optical combiner 82 for combining a plurality of optical channels to form a WDM add signal and a combiner 30 coupled to each of the add and through transmission paths for combining the add signal with optical channels in the through transmission path to generate a WDM output signal for transmission from the add/drop node (col. 4, lines 20-24).

The difference between Sridhar and the claimed invention is that Sridhar does not teach a second wavelength blocking element for selectively blocking optical channels that are passed along in the through transmission path. Park et al. shows in FIG. 2 a add filter 271 for selectively blocking optical channels that are passed along in the through transmission path. Park et al. teaches in paragraph [0028] the reflection type filter consists of the reflection filters corresponding to N-m wavelengths where N is the wavelengths of the WDM input signal at the input port of the add/drop node and m is the dropped wavelengths. One of ordinary skill in the art would have been motivated to combine the teaching of Park et al. with the add/drop node of Sridhar because the add filter eliminates optical noise and avoid wavelength collision (paragraphs [0023] and [0028] of Park et al.). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a block filter for blocking channels that are not to be added, as taught by Park et al., in the add/drop node of Sridhar because the add filter eliminates optical noise and avoids wavelength collision.

Regarding claims 2 and 14, Park et al. teaches in paragraph [0037] to use tunable filters for both drop filter 231 and add filter 271 so that channels to be dropped and added can be controlled remotely. Also, Sridhar teaches in col. 9, lines 53-55 to use tunable filter for dynamically configuring selective blocking function.

Regarding claims 3 and 15, Sridhar teaches in col. 4, lines 31-35 equalizing gain.

Regarding claim 9, Sridhar discloses in FIG. 1 demultiplexer 62.

Regarding claim 12, both Sridhar and Park et al. teach a WDM signal comprising a plurality of optical channels. Park et al. teaches in paragraph [0037] tunable filter for dropping and adding any desirable channels.

Regarding claims 20 and 22, Sridhar teaches in col. 9, lines 53-55 to use tunable filter for dynamically configuring selective blocking function.

3. Claims 4-8, 10, 11 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sridhar and Park et al. as applied to claims 1-3, 9, 12-15 and 19-22 above, and further in view of Thomas et al. (U.S. Patent 6,429,974 B1).

Sridhar and Park et al. have been discussed above in regard to claims 1-3, 9, 12-15 and 19-22. Regarding claims 4 and 16, the difference between Sridhar and Park et al. and the claimed invention is that Sridhar and Park et al. do not teach an interleaver for separating the WDM input signal into first and second groups. Thomas et al. teaches in FIG. 12 an add/drop system using an interleaver I for separating the WDM input signal into first and second groups so that optical channels in each of the groups are spaced apart by at least one wavelength as illustrated in FIG. 10. One of ordinary skill in the art would have been motivated to combine the teaching of Thomas et al. with the modified add/drop node and method of Sridhar and Park et al. because it supports batch processing of a group of channels with common components, e.g., express routing path for a group of channels. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use interleaver to separate WDM signal into first and second channel groups, as taught by Thomas et al., in the modified add/drop node and method of Sridhar and Park et al. because it supports batch processing of a group of channels with common components.

Regarding claims 5 and 6, Thomas et al. shows in FIG. 10 optical channels in each of the first and second groups are spaced apart by at least one wavelength, wherein the first group

includes optical channels having an odd channel number and the second group includes optical channels having an even channel.

Regarding claims 7-8 and 17, Thomas et al. shows in FIG. 12 an express routing path (pass-through). Thomas et al. also teaches in FIG. 13 express routing path 1314 where channels cannot be dropped.

Regarding claims 10-11 and 18, Thomas et al. teaches in FIG. 14 interleavers for separating the WDM input signal in the drop transmission path into at least two groups of optical channels according to a prescribed pattern so that channel spacing between optical channels is increased (see Thomas et al, col. 6, line 66-col. 7, line 8).

Response to Arguments

4. Applicant's arguments filed 17 January 2006 have been fully considered but they are not persuasive.

Regarding claims 1-2, 9, 12-15 19 and 20, the Applicant argues that neither Sridhar nor Park disclose or suggest the limitation "selectively blocking one or more optical channels being dropped from a WDM input signal so that only optical channels not being dropped at the add/drop node are passed on a through transmission path." The Applicant submits that, in Sridhar, there is either no "through" transmission path or the through transmission path does not contain an element that selectively blocks optical channels. The Examiner disagrees. Sridhar teaches in FIG. 1 a through path from input port (the "*" at the left-hand side of the dashed box) through fiber 50 to the output port (the "*" at the right-hand side of the dashed box). Sridhar teaches in FIG. 1 filters 42, 44, 46 and 48 for selectively blocks optical channels.

The Applicant argues that, with respect to Park, if the "through" path is considered the path which leads from element 231 towards element 213 then it can be seen that the through path does not contain an element for electively blocking one or more optical channels from a WDM signal. The Examiner disagrees. Park teaches in FIG. 3 and FIG. 4 examples of the drop device 231. FIG. 3 includes filters 334a and 334b for selectively block wavelength channels. FIG. 4 includes filters 438a and 438b for selectively block wavelength channels.

Regarding claim 21 and 22, the Applicant argues that each of these claims includes: (a) a first transmission path for dropping selective optical channels from a WDM signal; (b) a second transmission path for routing selective optical channels through an add/drop node; (c) and a third transmission path for adding selected optical channels to the WDM signal. The Applicant submits that Sridhar does not disclose a through transmission path which selectively block wavelengths that are being added to the WDM signal. The Applicant argues that the wavelength being added in path 83 are not added in a through transmission path; instead, these wavelengths are being added in an add transmission path. The Examiner disagrees. First, claims 21 and 22 are method claims and the items (a), (b) and (c) are listed in the preamble as intended use. Secondly, Sridhar teaches in FIG. 1 a through path from input port (the "*" at the left-hand side of the dashed box) through fiber 50 to the output port (the "*" at the right-hand side of the dashed box). Sridhar teaches in FIG. 1 filters 42, 44, 46 and 48 for selectively blocks optical channels. Sridhar teaches in FIG. 1 that these blocked channels are channels to be added. Sridhar teaches in FIG. 1 a third transmission path 83 for adding selected optical channels to the WDM signal. The preamble does not recite whether the third transmission path is a through transmission path or an add transmission path.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

skl
14 March 2006

Shi K. Li
Patent Examiner